

A CONTRIBUTION TO THE SURGERY OF THE HYPERTROPHIED PROSTATE.¹

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WITH our present experience in the surgery of the hypertrophied prostate, and with the imperfect results hitherto so often attained even after serious operations, any additional clinical facts are of importance. Interest in this subject has been revived since, through the experiments and observations of Professor White, of Philadelphia, the operation of castration has been brought prominently before the profession, and been backed by a sufficient number of successful reports to warrant even the most conservative surgeons in advising it in selected cases.

Most of the operations proposed have met with some share of success, but the average mortality from the more radical measures has been too heavy to make their general adoption advisable.

The simplest and safest of these, perineal section, incision well into the median portion of the prostate, separation of the edges of the prostatic incision as widely as possible by firm pressure with the finger, forceps, or divulsor, and the retention for two or more weeks of as large a catheter as could be tolerated, has given me many excellent results, especially when the hypertrophy was chiefly confined to the median portion. By excellent results I mean diminution or relief of pain and straining, increased size of the stream with diminished frequency of urination, and lessened residual urine or its complete disappearance. Unfortu-

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nately relief so afforded is not always permanent. In the case longest under my own constant observation, now over three years, the amount of residual urine, which before operation was twenty-two ounces, and decreased after operation to five ounces, is now slowly increasing, so that frequently eight and sometimes nine ounces are withdrawn. This patient, however, is still able to introduce a soft catheter with ease, which he does once daily, a thing impossible for him prior to operation. The lateral lobes have increased in size, and there is an occasional return of frequent urination, but otherwise he remains comfortable and free from the marked and painful straining and disturbed rest from which he suffered so much prior to prostatotomy.

The most marked result from this operation was in a patient whose age was only fifty-six, and yet he had been troubled for four or five years with symptoms referable only to an hypertrophied prostate. He had during this time complained of frequent urination, especially at night, diminished size and force of stream, occasional retention for part of a day, etc. There was no antecedent history of venereal disease, and no stricture of the urethra. When first seen he had been suffering from retention, with some overflow for two days. Two quarts of foul ammoniacal urine were removed. There was moderate enlargement of the lateral lobes of this man's prostate, and decided enlargement of the median portion, as shown by the sound and cystoscope. After four weeks' treatment by frequent catheterization, tonics, etc., and after several days of constant drainage by a retained catheter, there was still almost complete inability to void urine. At times, with much straining, he would pass a few drachms, more often none. After the perineal operation and two weeks' drainage this patient regained the power of voluntary urination and gradually improved, and residual urine disappeared. His condition remained the same for four months, since which time I have been unable to trace him.

In a total of eleven cases operated on by this method there has been more or less marked improvement in all and no deaths.

Where it is deemed advisable to remove any portion of the prostate, I believe it should always be approached by the supra-

pubic route. Efforts at complete removal of the median portion by the perineal route alone are unsatisfactory and dangerous, for while incision can be made under guidance of the finger where the perineal distance is not too great, the finger and the rongeur or any other instrument devised for perineal prostatectomy cannot occupy the neck of the bladder at the same time, and the surgeon can neither feel nor see the extent of his work, and is in no position to deal with the hæmorrhage which is certain to be more profuse than that which results from incision and stretching. In two of the foregoing cases I tried to remove some of the median enlargement in this way, and partially succeeded, but the final result was no better than after incision and stretching, and the convalescence more tedious. Whether the perineum is to be opened subsequently to suprapubic incision for better access to the prostatic urethra, drainage, etc., must depend on the case.

Although I have had no deaths from suprapubic prostatectomy in the three cases so operated upon, the results have not been very encouraging. In the first two cases, although the patients were able to introduce the catheter with ease, where before it had been very difficult, power of voluntary urination was not restored except to the extent of a half ounce or so at a time, and this only when the bladder was over-distended. In the third case I removed a stone and the median portion of the prostate nearly four months ago. This patient was sixty-four years of age, had been suffering greatly for a long time, and had chronic interstitial nephritis. The suprapubic operation was necessitated on account of the size of the stone and prostate. The median portion of the prostate formed a complete valve, and so effectually closed the vesical outlet that the latter could not with certainty be identified until a sound was passed per urethram. Pushing the portion to be removed backward by means of a large sound so introduced, greatly facilitated the operation. Cutting was continued until a deep groove marked the former site of the hypertrophy, and a short beaked sound easily entered the bladder. The highest temperature, after operation, in this case was 102.2° F. Normal after the third day, except on one occasion, when it rose to 100° F. The drainage-tubes were removed, one on the

seventh and one on the fourteenth day. The abdominal wound had closed at the end of the sixth week. Four weeks later, and five weeks after the patient had been up and around, he complained of pain in the perineum, and in a few days I opened an abscess, through which afterwards there was a leakage of urine. While in bed, from this complication, the abdominal wound reopened. He has been able to pass a little urine voluntarily, but as yet not over an ounce or two at a time. For two years prior to operation he depended entirely upon the catheter, never voiding a drop without its aid. At present writing the abdominal wound has closed again, the perineal fistula nearly closed, and he thinks he could pass considerable urine voluntarily were it not for his fear of forcing it through the perineal opening. His urine remains clear, he uses the catheter every three or four hours and feels confident of still further improvement. In all of these cases the continued inability to void urine, in any quantity, I believe to be due more to atonied bladders than to obstruction of the vesical outlet.

Castration for Hypertrophied Prostate.—The two cases upon which I have performed castration for the relief of this disease are herewith reported.

CASE I.—The patient was fifty-eight years of age, and gave a history of having had more or less difficulty in urinating for ten or twelve years. Thirty-five years ago he had a single attack of gonorrhœa of moderate severity and short duration. During the last few years he has been under treatment in several different hospitals, in all of which he has been told that his trouble was due to enlarged prostate. For several years he has had more or less incontinence, which has been growing more rapidly worse of late, so that for the past two years the dribbling of urine has been so nearly constant that he has been prevented from doing any active work. Five and a half ounces of residual urine was present at the first catheterization. His general condition was bad, and there were evidences of degenerative changes in his vascular system. No previous treatment has, he claims, given him any permanent, generally not even temporary, relief.

Great difficulty was experienced in catheterization owing to

obstruction in the prostatic urethra. Nothing, as a rule, but a long, curved, silver catheter could be introduced. Length of urethra about eight and a half inches. There was a stricture of large calibre in the penile urethra, and one at the bulbo-membranous junction, but it did not seem that these were responsible for any of his symptoms. Thompson's searcher could not be passed owing to the size of the median portion of the prostate, but a small Van Buren sound was introduced with difficulty by greatly depressing its shaft and using some force to override the obstruction. Lateral lobes only moderately enlarged, the right a little more than the left.

Castration was proposed to this patient as a possible means of relief, and accepted. Both testicles were removed February 24, 1895.

He had been suffering from some catheter fever prior to operation. Highest temperature after operation 101.4° F. Normal after the third day. The catheter was passed every four or five hours to prevent soiling of the dressings. The house surgeon found catheterization more easy each day, and soon was able to use a soft rubber instrument. There was no pain whatever as a result of operation. The second day after operation he voided twelve ounces of urine voluntarily, at different times during the day, and while there was no noticeable increase in the volume of the stream there was a marked diminution in the straining to which he had been so long subject.

The third night after operation catheterization was neglected, and he had some overflow. The following morning eight ounces were withdrawn and during that day he passed it without assistance. Six days after operation the amount of residual urine had fallen to a half ounce. The day following there was none. At times, however, during the following week there would be more or less residual urine present.

March 17. For the first time appreciable diminution in the size of the lateral lobes was noted, but that of the median portion was most marked, a sound passing into the bladder as though the former obstruction had been largely removed. After going several days without catheterization, five ounces of residual urine were found, showing an atonied bladder.

April 5. Continuous improvement in his local symptoms noted. He feels as if his urine passed naturally and has no straining whatever. Residual urine is generally absent or present only in small amount,—an ounce or less. He has, however, considerable of his former inability to retain urine when once the desire comes to void

it. The interval between the acts of urination is growing longer, two hours, and at times three. Length of urethra now seven and a half inches. Prostate, as felt per rectum, much smaller, and a small-sized sound drops into the bladder by its own weight.

CASE II.—The patient, who was sixty-nine years of age, was referred to me in January, 1895, by Dr. R. L. Dickinson.

For nine years this man had been troubled with frequent urination, associated with straining and pain during the act. For the past two or three years he has, for much of the time, urinated every half-hour at night and hourly during the day. Exceptionally he would not be disturbed for two or three hours. Straining during urination has been constant, and has become progressively worse. He has never had retention of urine, and gives no history of venereal disease. For the past year he has been losing weight, and has suffered much from loss of sleep. Sexual desire has been practically abolished for some time.

The length of the urethra was eight inches, and the bladder contained four ounces of residual urine. There was moderate enlargement of the median portion of the prostate, and the lateral lobes were at least double their normal size and symmetrical in outline.

During the four months following this date there was at times some improvement, but it would be temporary. The quantity of residual urine was at times six and seven ounces, and on the whole he had become so much worse that he asked for relief by surgical means. During the week immediately preceding operation he suffered greatly from frequent and painful urination, some nights every fifteen to twenty minutes. This with the consequent loss of rest were the only apparent causes for his elevation of temperature, which ranged from 100° to 101° F. for three days prior to operation.

The urine in this case was always acid in reaction, and contained only a small amount of pus.

May 18, 1895. I removed both testicles, which were far advanced in cystic degeneration. Neither shock nor pain followed. His temperature fell the next day to 99.4° F., and was normal after the third day.

May 19. At 8.30 A.M. he passed four and a half ounces of urine; about the same amount at 10 and at 11. After this last micturition there was found to be three ounces of residual urine.

During the four following days he continued to urinate with less pain and at from one to three hours' interval.

May 23. At 7 A.M. he passed voluntarily five ounces of urine; at 10.30 A.M., seven ounces; at 1 P.M., five ounces; at 3 P.M., seven ounces. At this hour three ounces of residual urine were drawn. His bladder was emptied by catheter at 10 P.M., and he urinated only once between this time and 5 A.M. the following day.

May 26, the eighth day after operation, the following notes were made: The patient has improved greatly in his appearance and looks less careworn. He can see no change in the volume or force of the stream, but the straining in voiding urine has diminished more than one-half. Last night at 10, three ounces of residual urine were withdrawn, and he slept till 3 A.M.—five hours—before he was called upon to urinate. He slept two hours more before he again had to pass water. There is no change in the length of the urethra, but examination per rectum shows marked diminution in the size of the right lobe and appreciable decrease in the left.

At this writing, eleven days after operation, the following bedside notes were made by the attendant: The catheter was passed at 11 last night, and two and a half ounces of residual urine were withdrawn. The patient did not pass water until 5 this morning—a period of six hours—and not again until 9.20. During the day, when drinking freely, he urinates every two to three hours. The decreased size of the prostate at so early a date was a surprise, and the inequality of the two lateral lobes still more so. I am quite sure that such a condition did not exist prior to operation, for I made several careful rectal examinations. Whether the fact that the right testicle was less far advanced in cystic degeneration than the left had anything to do with the result or not I do not know; but it seems possible that the most rapid change in the prostate might take place on the side of the gland that had been the most active.

No further comment is required on the improved condition of this patient at the present time. The facts as stated speak for themselves.

A few years ago a gentleman of sixty-five came under my care, whose testicles had been removed some months before for tuberculosis. At the time of my first examination there was a slightly nodular prostate, but no general enlargement of the lateral lobes, and no evidence of hypertrophy of the median portion. The urethra was not lengthened, and there was no residual urine. He had frequent and painful urination, and later on tuber-

cle bacilli were found in abundance. At that time he made the statement, the significance of which I did not then understand, that after removal of his testicles he had much less difficulty in voiding urine than formerly. Not thinking of any possible effect on his prostate from castration, no further symptoms were noted; but the small size of the gland, though tubercular, and his statement in regard to urination coupled with his age were significant facts. This man lived nearly four years after he became my patient, and then died from tuberculosis of the bladder and kidneys; but his prostate never increased perceptibly in size, and he was never the subject of residual urine. This absence of prostatic hypertrophy may have been accidental, but in a uro-genital tuberculosis, beginning in the testes, and, finally, involving almost the entire urinary tract, we would expect marked enlargement of the prostate from tubercular deposits, especially when small foci undoubtedly existed in that gland. If castration can cause atrophy of the normal and of the hypertrophied prostate, there is no good reason why the same operation may not so affect its nutrition as to retard the advance of the tubercular process in its tissue. I mention this case, however, not for the purpose of suggesting castration as a remedy for tuberculosis of the prostate, unless perchance the infection were confined entirely to that gland, but because it is in direct line with this subject, and therefore of interest.

There seems to be sufficient evidence already before the profession to show that castration has a positive effect in reducing the size of the hypertrophied prostate; but in long-continued cases, in which atony of the bladder or other structural changes have occurred, we must be cautious in our prognosis lest we bring the operation into disfavor. It has occurred to me that some of the immediate results reported as due to castration might very properly be ascribed, in part at least, to the diminished congestion of the prostate and vesical neck following rest in bed and the maintenance of an even temperature of the body. We frequently see retention of urine from exposure to cold, even in prostatics, relieved by a hot bath. We often see painful and frequent urination promptly relieved by a few days' rest in bed, and

a properly-directed diet and course of medication. In the case here reported, however, the effect upon the prostate was remarkable, and this was verified by a number of examinations both by myself and by my colleague, Dr. A. T. Bristow.

To obtain the best results from any operation for the relief of this disease, it should be performed before the bladder has undergone irremediable changes; and to persuade patients to submit to castration while yet their symptoms are of moderate severity will be a difficult matter. This operation will have to produce most decided and beneficial results before it can attain any degree of popularity. Removal of a portion of the vasa deferentia, which has been suggested in lieu of castration, would, perhaps, more readily be accepted by patients, but, from observation of a number of cases in whom the epididymis and vas have been obstructed permanently by repeated attacks of inflammation, I do not believe that such a procedure will prove useful.

What may be the condition, six months or a year hence, of those patients who have recently been subjected to castration in this and other countries, will be awaited by the profession with much interest.